SR6600路由器MPLS Carrier’s Carrier基本配置

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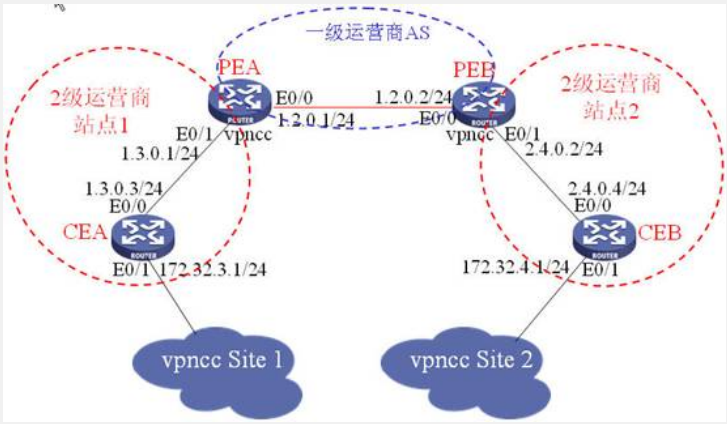
关键词：SR66;MPLS;L3VPN;OSPF多实例

一、组网需求:
PEA和PEB为1级运营商的PE，分别连接2级运营商的出口CEA和CEB。
设备清单：SR6600路由器4台

二、组网图:



三、配置步骤:
设备和版本：SR6600
CEA配置

```
#
 router id 3.3.3.3
#
interface Ethernet0/0
 port link-mode route
 description connects to peA
 ip address 1.3.0.3 255.255.255.0
#
interface Ethernet0/1
 port link-mode route
 description connects to vpncc site1
 ip address 172.32.3.1 255.255.255.0
#
interface LoopBack0
 description router id
 ip address 3.3.3.3 255.255.255.255
#
ospf 1
 area 0.0.0.0
  network 3.3.3.3 0.0.0.0
  network 1.3.0.0 0.0.0.255
  network 172.32.3.0 0.0.0.255
#
```

PEA配置

```
#
```

```
router id 1.1.1.1
#
ip vpn-instance vpncc
 route-distinguisher 1:1
 vpn-target 1:1 export-extcommunity
 vpn-target 1:1 import-extcommunity
#
mpls lsr-id 1.1.1.1
#
mpls
#
mpls ldp
#
interface Ethernet0/0
 port link-mode route
 description connects to peB
 ip address 1.2.0.1 255.255.255.0
 mpls
 mpls ldp
#
interface Ethernet0/1
 port link-mode route
 description connects to ceA
 ip binding vpn-instance vpncc
 ip address 1.3.0.1 255.255.255.0
#
interface LoopBack0
 description router id
 ip address 1.1.1.1 255.255.255.255
#
interface LoopBack1
description vpncc's router id          //用于OSPF多实例的router id
 ip binding vpn-instance vpncc
 ip address 1.0.0.1 255.255.255.255
#
bgp 1
 undo synchronization
 peer 2.2.2.2 as-number 1
 peer 2.2.2.2 connect-interface LoopBack0
 #
 ipv4-family vpnv4
  peer 2.2.2.2 enable
 #
 ipv4-family vpn-instance vpncc
  import-route ospf 2
#
ospf 1
 area 0.0.0.0
  network 1.1.1.1 0.0.0.0
  network 1.2.0.0 0.0.0.255
#
ospf 2 router-id 1.0.0.1 vpn-instance vpncc
 import-route bgp
 area 0.0.0.0
  network 1.0.0.1 0.0.0.0
  network 1.3.0.0 0.0.0.255
#
PEB配置
#
router id 2.2.2.2
#
ip vpn-instance vpncc
 route-distinguisher 2:1
 vpn-target 1:1 export-extcommunity
```

```
 vpn-target 1:1 import-extcommunity
#
vlan 1
#
mpls lsr-id 2.2.2.2
#
mpls
#
mpls ldp
#
interface Ethernet0/0
 port link-mode route
 description connects to peA
 ip address 1.2.0.2 255.255.255.0
 mpls
 mpls ldp
#
interface Ethernet0/1
 port link-mode route
 description connects to ceB
 ip binding vpn-instance vpncc
 ip address 2.4.0.2 255.255.255.0
#
interface LoopBack0
 description router id
 ip address 2.2.2.2 255.255.255.255
#
interface LoopBack1                    //用于OSPF多实例的router id
 description vpncc's router id
 ip binding vpn-instance vpncc
 ip address 2.1.1.1 255.255.255.255
#
bgp 1
 undo synchronization
 peer 1.1.1.1 as-number 1
 peer 1.1.1.1 connect-interface LoopBack0
 #
 ipv4-family vpnv4
  peer 1.1.1.1 enable
 #
 ipv4-family vpn-instance vpncc
  import-route ospf 2
#
ospf 1
 area 0.0.0.0
  network 2.2.2.2 0.0.0.0
  network 1.2.0.0 0.0.0.255
#
ospf 2 router-id 2.1.1.1 vpn-instance vpncc
 import-route bgp
 area 0.0.0.0
  network 2.4.0.0 0.0.0.255
  network 2.1.1.1 0.0.0.0
#
CEB配置
#
router id 4.4.4.4
#
interface LoopBack0
 description router id
 ip address 4.4.4.4 255.255.255.255
#
interface Ethernet0/0
 port link-mode route
```

```
 description connnects to peB
 ip address 2.4.0.4 255.255.255.0
#
interface Ethernet0/1
 port link-mode route
 description connects to vpncc site2
 ip address 172.32.4.1 255.255.255.0
#
ospf 1
 area 0.0.0.0
  network 4.4.4.4 0.0.0.0
  network 2.4.0.0 0.0.0.255
  network 172.32.4.0 0.0.0.255
#
```

四、配置关键点:

1. PE和CE之间运行OSPF多实例，注意引入BGP的vpn路由；
2. PE的BGP注意引入OSPF多实例的路由。